

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (currently amended): A method of sputtering a tungsten or tungsten-containing film from a tungsten target onto a semiconductor wafer including using krypton or xenon as a sputter gas, wherein the resistivity of the tungsten film is less than $11\mu\text{ohm cm}$.

2. (original): A method as claimed in claim 1 wherein the deposition takes place in a vacuum chamber with a krypton pressure of less than 10mT.

3. (original): A method as claimed in claim 2 wherein krypton pressure is less than 6mT.

4. (cancelled)

5. (currently amended): ~~A method as claimed in claim 1~~ A method of sputtering a tungsten or tungsten-containing film from a tungsten target onto a semiconductor wafer including using krypton or xenon as a sputter gas, wherein the power supplied to the target is greater than about ~~1 watt per cm~~ $3.5\text{ watts per cm}^2$.

6. (currently amended): ~~A method as claimed in claim 1~~ A method of sputtering a tungsten or tungsten-containing film from a tungsten target onto a semiconductor wafer including using krypton or xenon as a sputter gas,

wherein the wafer is placed on a platen during deposition and the platen temperature is between 200°C and 400°C.

7. (currently amended): ~~A method as claimed in claim 1~~ A method of sputtering a tungsten or tungsten-containing film from a tungsten target onto a semiconductor wafer including using krypton or xenon as a sputter gas, wherein the platen is negatively DC biased.

8. (currently amended): ~~A method as claimed in claim 1~~ A method of sputtering a tungsten-containing film from a tungsten target onto a semiconductor wafer including using krypton or xenon as a sputter gas, wherein the sputtering is reactive sputtering[[;]], the sputter gases includes nitrogen, and the film deposited is tungsten nitride.

9. (currently amended): A method as claimed in claim 1 wherein the sputter ~~gasses~~ gases further include argon.

10. (currently amended): A method as claimed in claim 9 wherein the ratio of argon to krypton or xenon is selected to ~~minimise~~ minimize stress in the deposited film.

11. (currently amended): A method of forming a tungsten/tungsten nitride stack on a wafer including sputtering a tungsten nitride film on a wafer and sputtering a tungsten film on the ~~tungsten/nitride~~ tungsten nitride film wherein the two sputtering processes are performed in a single chamber using a single target, wherein the wafer is on a platen and the platen temperature is maintained substantially the same for the two sputter processes.

12. (cancelled)

13. (previously presented): ~~A method as claimed in claim 11~~ A method of forming a tungsten/tungsten nitride stack on a wafer including sputtering a tungsten nitride film on a wafer and sputtering a tungsten film on the tungsten nitride film wherein the two sputtering processes are performed in a single chamber using a single target, wherein the tungsten film is sputtered from a tungsten target onto a semiconductor wafer including using krypton or xenon as a sputter gas using a method as claimed in claim 1.

14. (previously presented): ~~A method as claimed in claim 11~~ A method of forming a tungsten/tungsten nitride stack on a wafer including sputtering a tungsten nitride film on a wafer and sputtering a tungsten film on the tungsten nitride film wherein the two sputtering processes are performed in a single chamber using a single target, wherein the tungsten nitride or tungsten containing film is deposited by reactive sputtering and the sputter gases include nitrogen using the method of claim 8.

15. (currently amended): A gate structure formed by the method of claim 11.